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NATIONAL FORESTRY CONFERENCE MEETS IN DACCA

Dacca THE NEW NATION in English 22 Jan 82 pp 1, 8

[Text] The very existence of Sundarbans, the world's largest single tract mangroves comprising an area of about 1.5 million acres in the extreme south-west corner of Bangladesh is at stake due to gradual fall of water caused by diversion of Ganges flow at Farakka.

This was disclosed at the Second National Forestry Conference held at the Shishu Academy in Dacca yesterday. The six-day conference split into several sessions was inaugurated by Agriculture and Forest Minister Dr Fashiuddin Mahtab.

Reading from a paper titled "Adverse Effects of Farakka on the Sundarbans" at the first technical session in the afternoon, Asstt. Chief Conservator of Forests Mohammad Shafi told the conference that the very existence of the forest is threatened due to fall of water and consequent abnormal rise in salinity in dry season.

It may be mentioned that the Sundarbans forest is an integral part of the Bangladesh economy providing employment opportunities to millions of people. The Sundarbans also acts as the buffer against the ravages of cyclones and tidal bores.

Country's only newsprint mill, hard-board mill, bobbin factory, tannin factory and match factories mostly located in Khulna are completely dependent on the Sundarbans forest for raw materials. Besides, famous for natural scenerio, the Sundarbans is the home of the world famous Royal Bengal Tiger, spotted deers, crocodiles and hundreds of varieties of birds and fishes.

In his paper, Mr Mohammad Shafi told the conference that at least 50.72 million cft timber valued at Taka 200 crore was lost in a year due to death of sundari species alone in the Sundarbans following abnormal rise in salinity caused by diversion of the Ganges flow at Farakka.

He referred to a survey carried out by the concerned department that revealed the evidence of large scale deterioration of the condition of the forest in general and mortality of the commercially important major timber species "Sundari" in particular.

Showing the extent of both the timber and financial loss, the survey said that mortality rate is much higher among the plants of younger age groups having the tender root which can not tolerate the unfavourable "edaphic changes" caused by the reduced flow of the Ganges.

Other valuable timber species like passur, gewa, kankra, keora have also started dying due to the same causes as attributed in case of the death of sundari.

The survey also showed a "tremendous fall" in total number of regeneration of all the species for which sample plots had been laid down for regeneration study. The decrease is as much lower as 100 percent and 200 percent in some cases.

The paper said even the present quantum of regeneration which is far below the requirement will not sustain in future unless sufficient quantity of fresh water is guaranteed to flush Sundardans during the dry season in order to arrest the alarming deteriorating situation.

With the gradual decrease in the upland flows, salinity has increased and advanced far inland upto more than 100 miles. On the other hand, concentration of salt induces symptoms of physiological drought in which osmotic pressure of the water in the root zone is much higher than the plant cell map leading to negative osmosis.

If the reduction of fresh water supply from the upland continues, the entire forest of quality class I and II is bound to scrub forests class III and the average annual loss from quality class I and II after 20 years filling cycles will come to more than Taka 180.000 crore.

As the Sundarban forest is in a gradual state of conversion from quality class I (best forest) to quality class III (worst type) the paper suggested that composition of both flora and fauna is imminent unless normal flow of the Ganges water is immediately restored.

Earlier, inaugurating the conference, Agriculture and Forest Minister Dr Fashiuddin Mahtab called for taking up a more "aggressive programme" for the development of forestry in Bangladesh. "I don't think the present programme is sufficient", he said.

The inaugural function was also addressed by Mr A.Z.M. Obaidullah Khan, Secretary, Ministry of Agriculture and Forests, Mr Abd ul Hamid, Inspector General of Forests and Mr M.R. Chowdhury, Convenor of the Organising Committee of the conference.

CSO: 5000/7038

PRELIMINARY REPORT ON GANGES POLLUTION DESCRIBED

Madras THE HINDU in English 6 Jan 82 p 16

[Text]

The Central Board for Prevention and Control of Water Pollution has warned that the future of the River Ganga and the vital interests of the millions of inhabitants of the basin will be severely jeopardised if suitable pollution control policies are not evolved and implemented speedily.

The Board has since 1979 been monitoring the quality of the river water at over 30 points in seven States. Its report is expected in a year from now but its preliminary conclusions are that long stretches of the Ganga near Kanpur and Varanasi are fit only for navigation and unsuitable for any beneficial human use.

Flow of sullage: The Board has observed that the main reason for the degradation of water quality in the Ganga during its flow along large towns and metropolitan centres is usually the sullage and other community wastes poured into it by the so-called storm-water drains or surface drains from different parts of the cities.

It is not unusual to see a large drain carrying significantly large loads of domestic wastes joining the river right at the upstream end of the city reach of the river.

Such a situation raises steeply the coliform counts of the river and hence the danger of pathogens and of enteric diseases. It also lowers the dissolved oxygen in the water, making it unhealthy

The share of industries in the total pollution load is small, but not insignificant. For Allahabad, it is around four per cent, for Varanasi around five per cent, and for Kanpur around 18 per cent of the total organic load discharged from the respective towns.

None of the large cities on the banks of the Ganga has a sewage treatment plant, although they do have partial sewerage systems. The sewage collected is often used for sewage farming after dilution with fresh water pumped from Ganga. However, according to the Board, the farms do not need all or any of the water for irrigation and the untreated sewage is also poured into the Ganga, seriously degrading its quality for 50 to 100 kms downstream of the sewage outfall. This often happens at Kanpur and Varanasi.

Kanpur's depredation: The study has revealed that upstream of the city of Kanpur, the water quality in Ganga remains reasonably good. The only noticeable degradation in quality occurs at Kannauj where the inflow of the rather heavily polluted eastern Kali river along with the sullage and sewage from the town of Kannauj combine to exceed the assimilation capacity of the river.

That degradation, however, is not enough to make the water quality fall below the desired level fit for outdoor bathing and other beneficial uses. Thus,

upto about 10 kms upstream of Kanpur, the water quality in the Ganga is satisfactory. As the sullage drains from Kanpur start pouring into the Ganga, the quality steeply deteriorates. Through natural self-purification processes, the quality of the water rises again when it reaches Allahabad. But pollution at Varanasi pulls the quality down and at some points even down to a level unfit for beneficial use for several kms.

The river recovers again by the time it reaches the UP-Bihar boundary and thereafter remains at quality level almost all along its flow to the Bay of Bengal.

The Board has concluded that the mere size and the consequent self-purification and pollution-assimilation capacities available in the river Ganga have helped it to maintain a relatively clear look and satisfactory water quality along most of its length so far. Now, however, the natural defences have been breaking down and urgent steps to halt the degradation are called for, it has cautioned.

CSO: 5000/7037

EAST JAVA GOVERNOR THREATENS TO CLOSE FACTORIES

Jakarta SINAR HARAPAN in Indonesian 24 Nov 81 pp 1, 12

[Text] East Java Governor Sunandar Priyosudarmo warned businessmen that their factories would be closed if they did not have facilities for processing waste water by 1 May. "Of course, they will have to pay their workers," he told 67 East Javan businessmen in his office last week.

According to him, 56 percent of the businessmen in the region had not yet even begun to think about water processing, despite notification from the Pollution Control Commission.

Since businessmen often cite their workers as a reason why their plants should not be closed, Sunandar decided that the workers must still be paid, even if the plant were closed, so that his warning would be heeded.

According to 1980 data, 91 industries cause pollution in Modjokerto, Sidoardjo, Gresik, Probolinggo, Malang, Pasuruan, Surabaya and Banyuwangi. Of that total, 33 percent now have treatment facilities; 5 percent are in design or construction; and 55 percent have no plans.

Sumardi P., chairman of the Pollution Control Commission said industrialists would not pay attention to environmental problems unless compelled.

Ir Achmad, an industrial pollution expert from Australia believes we have to choose between developing industry first, and then worrying about the environment, or to make the environment our primary concern.

He cited Japan as an example, noting Japan has paid a price. One case of industrial pollution in Minamata caused 100 deaths.

9197

CSO: 5000/8004

POOR KNIGHTS ISLANDS MARINE RESERVE ANGERS FISHERMEN

Auckland THE NEW ZEALAND HERALD in English 16 Dec 81 p 2

[Text]

Northland fishermen are unhappy about the creation of a marine reserve around the Poor Knights Islands and will meet two senior officials of the Ministry of Agriculture and Fisheries today in the hope of changing the regulations.

A three mile no-fishing zone was established when the reserve was created in October. Northland fishermen have complained that they were not consulted and the zone was too large.

The director of the fisheries management division, Mr Brian Cunningham, and the director of the research division, Mr Duncan Waugh, will represent the ministry.

Environmentalists and others have already said the ministry should be given full support for the creation of the reserve.

The scientific committee of the New Zealand Underwater Association believes the three-mile

limit is the bare minimum required to preserve the unusual marine life around the islands.

A spokesman for the association, Mr Michael Ogler, said: "We are concerned at the depletion of fish in the Northland marine park and believe the creation of the reserve is the right step towards preserving these endangered species."

A scientist at the Leigh Marine Laboratory, Dr W. Ballantyne, said the non-fishing zone not only protected marine life but also birds on the islands which fed on the fish.

Emphasising that he was giving his personal view, Dr Ballantyne said: "For once we have got a priceless ecosystem for the scientists and all others to enjoy."

He said the ministry should be given all the support it deserved for the creation of the reserve. Moves to erode the reserve should be strongly resisted.

CSO: 5000/9060

BRIEFS

MINING WITHOUT ENVIRONMENTAL DAMAGE--Technological changes and rising mineral prices could once again give mining a prominent place in the New Zealand economy, Wellington economist Mr W. G. Scott, says in a report. Mr Scott has completed a six-month investigation into mining and its impact on the New Zealand economy for the Waihi joint venturer, Amex Exploration (NZ) Ltd. He says mining offers New Zealand the opportunity to increase exports, save imports and develop a manufacturing base using local resources. "Further expansion of mineral output could produce significant foreign savings and would be worthwhile provided the costs in terms of possible environmental damage and movements of land, labour and capital from other productive ventures could be justified," Mr Scott says. New Zealand has the opportunity to avoid environmental mistakes made in some countries and yet broaden the economic base of the country. "Development of New Zealand's mineral resources and the protection of the natural environment," he adds, "are not incompatible but certain unique and irreplaceable areas must be preserved." [Text] [Auckland THE NEW ZEALAND HERALD in English 16 Dec 81 Sec 3 p 5]

CSO: 5000/9060

VINA DEL MAR BEACHES FOULED BY OIL SPILL

Santiago EL MERCURIO in Spanish 20 Jan 82 p A 1

[Article by Beatriz Undurraga]

[Excerpts] Vina del Mar--Some 20 tons of oil from a pipeline that ruptured in the resort town of Las Salinas have fouled 20 kilometers of beaches between that area and the exclusive Acapulco district.

The accident occurred over the weekend, when pipes carrying the fuel from Concon to tanks belonging to the National Oil Pipeline Company (SONACOL) burst. The company supplies the Esso, Shell and COPEC [Chilean Oil Company] plants in this city.

As a result of the spill, a large number of fish in the coastal waters, such as corvina and sole, perished and cover the beaches. Fishermen and lifeguards helped other species showing symptoms of having been poisoned by the fuel return to the sea.

Fine for SONACOL

Edmundo Crespo, mayor of Vina del Mar, expressed his concern over the accident, telling newsmen: "It is a serious problem that greatly concerns us. Consequently, Maj. Jorge Manriquez, maritime governor of Valparaiso, has called a meeting to deal with the emergency immediately."

Crespo said that when the break occurred, the oil poured into a ravine and then to a rain water pipeline that carried it out to sea. In some sections of the beaches, the fuel formed veritable wells, blackening the rocks.

Early today, heavy machinery began to remove the dirty sand and carry in clean material from other sectors. Special floats will also be used to suck up the oil from the water's surface. This operation will be very costly and will be paid for with money SONACOL will have to pay in fines. The amount of the fine to be levied on the National Oil Pipeline Company has not yet been determined, but Mayor Crespo said, "It is quite high."

Investigators from the University of Chile's Institute of Oceanology, located in Montemar, said that the ecological harm will not be significant and that with respect to the beaches, the ocean waves will clean the remaining traces of oil within a week.

11,464

CSO: 5000/2053

WATER CONTAMINATION IN NATION DESCRIBED

Havana JUVENTUD TECNICA in Spanish Oct 81 pp 52-55

[Article by Lazaro Mora Llanos, geography professor, ISP [Advanced Institute of Teaching] of Matanzas]

[Excerpts] Water pollution results when man puts into the aquatic environment substances producing harmful effects which cause damage to living things, risks to human health, obstacles to aquatic activities including fishing, deterioration of the quality of water for consumption and the reduction of recreational areas.

Formerly this problem occurred in large cities or mining areas but now contamination of streams, rivers and lakes has become a universal problem.

In the case of water resources, what has to be looked into is not so much their exhaustion as their quality.

Contamination in Cuba

In our nation the most harmful type of contamination is biological contamination. The factors causing this are:

--urban sewage water

--livestock sewage water

--sewage water or residues from some food industries

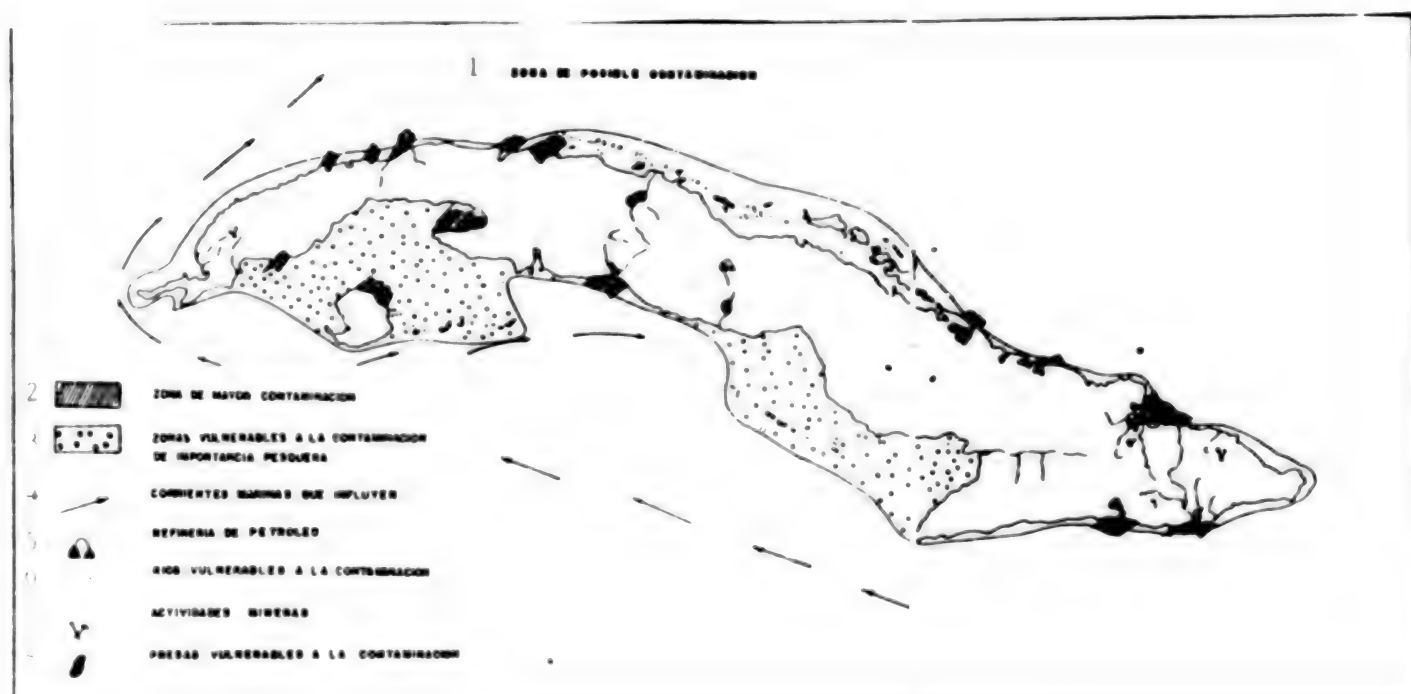
To resolve the sewage problem in our nation, building of sewer systems and water treatment plants is at the present time being increased; new cities are being planned with drainage systems. In this regard we should know that our rivers and streams should not be used for drainage since the self-purification capacity of our rivers is very low due to the extreme variations in the rate of flow of most of our streams and their high temperatures.

One of the steps taken in our country to assure the volume and quality of water for our dam reservoirs is to reforest the river banks upstream to avoid erosion and the subsequent transfer of sediment to the dam area.

Seventy-five percent of the national territory has a karstic topography. This geological condition results in almost all our provinces having a good volume of underground water which can be used for several purposes. These waters may also be contaminated by various means. Agricultural drainage, for example, has a high level of chemical substances which readily contaminate underground waters on contact. It is more difficult to purify such waters and to make them potable than is the case with surface waters.

Below is a map of the world with the most contaminated or potentially contaminated areas and also a map of Cuba with the areas which may be most vulnerable.

To locate these areas, various factors were taken into account but the most important was the productive activities of man.



Key:

1. Area of potential contamination
2. Area of greatest contamination
3. Areas in danger of contamination and of importance to the fishing industry
4. Ocean currents which influence contamination
5. Oil refinery
6. Rivers in danger of contamination
7. Mining activity
8. Reservoirs in danger of contamination

9204

CSO: 5000/2050

SIR EQUIPMENT BREAKDOWN POLLUTES WATERWAYS

Abidjan FRATERNITE-MATIN in French 12-13, 16, 18 Dec 81

[Serialized article by Sophie Chegaray: "Oil Slick on the Lagoon--Equipment and Environment"]

[12-13 Dec 81 pp 4-5]

[Text] Since 4 December, a huge layer of crude oil has been covering the Bietri lagoon whose banks are now colored black. Dead fish are floating on the surface. This oil slick was caused by several technical breakdowns in the SIR [Ivorian Refining Company], which sent unelutriated oily water and crude oil into the lagoon.

When the Ministry of Environment was alerted, it mobilized all its forces to set up an emergency plan. An expert arrived from France this morning. He is going to determine the extent of the catastrophe and the most urgent measures to be initiated.

This is not the first time that small oil slicks have occurred at Abidjan where a good number of industrialists have fallen into the habit of unscrupulously dumping their waste oil into the lagoon, while ships clear their tanks there with a total disregard for the damage that they cause to the natural environment.

But this time, things are too enormous for the incident to be overlooked. Moreover, the country is really beginning to become aware of the economic and human dangers that it incurs, if it does not protect its environment.

In fact, shoreside residents (and especially the Nautisports Club) gave the alert concerning this oil slick that started around 1 or 2 December. But the long week-end of the Independence Day holiday intervened with its professional vacuum at every level.

On Tuesday 8 December, those shoreside residents lodged a complaint in the Ministry of Environment, which sent its principal officials to the site on the very next day. Verification was not difficult to make. The lagoon is covered entirely by a shiny, black film, while a layer of fuel oil 1 centimeter thick has been deposited on its banks.

And a black torrent was flowing from the SIR outlet.

Therefore, the polluter, who had noticed nothing, was detected!

When the SIR was notified, it stopped all its waste discharges into the lagoon, but the damage had been done. The oil slick covered the Bietri lagoon.

The SIR Caught in the Act

In the SIR, they tried to offer an explanation without, however, denying the facts. The refinery actually does discharge used waste liquids into the lagoon, but those liquids are supposed to be treated. The bitumen unit purges its facilities with water, which then passes into a "purifier," a settling tank, which retains oils and hydrocarbons and releases the water. A technical breakdown in the pump thus probably let the water flow through directly before settling. But another breakdown was added to this one, because crude oil was also pouring into the lagoon.

Of course, they brought up the weekend facility monitoring, without pointing out that as early as Wednesday 2 December everyone in Abidjan was beginning to talk about that very apparent pollution. And especially they pretended to ignore the real amount of hydrocarbons poured into the lagoon.

Mobilization of All Forces

Therefore, for several days now, the Ministry of Environment has been on a war footing to take emergency measures with the means available to it. Yesterday morning, an important meeting was held in the office of the central director of Environment, Abdoulaye M'Bengue, in order to try to mobilize all forces in an attack plan as effective as possible. The following participated in the meeting: SIR, the Abidjan municipal administration, Civil Defense, the prefecture, firefighters and a private antipollution device company, ATEC [expansion unknown].

All of them had gone previously to observe, on the spot, the extent of the damage. Therefore, there was unanimity on the seriousness of the situation and on the need for acting rapidly. Because there are many victims. First of all, it is a question of the shoreside residents, private property or nautical clubs, but also and especially of the three Ebrie villages of Bietri, Petit-Bassam and Old Koumassi, which draw part of their subsistence from fishing in the lagoon.

To make matters worse, an international fishing competition was arranged a long time ago by the Nautisports Club and is to be held tomorrow 13 December. Foreign fishermen and newsmen are expected who risk very much carrying off in their memory a dismal picture of the environment in Ivory Coast. Even if it is a question, as on this occasion, of an accidental pollution.

The Polluters Will Pay

Already, the firefighters, whose readiness needs no demonstration, have prepared a strategy. In their opinion, it seems useless to start cleaning the banks as long as the surface of the water is covered with hydrocarbons. In fact, each tide risks causing more pollution for several days yet. Moreover, it is dangerous, because it will then become impossible to remove.

The firefighters, therefore, propose waiting a few days for the tides to deposit the bulk of that pollution before tackling cleaning the banks with dispersant products that they will spread from dry land.

The following question comes up immediately: what antipollution material is available in Ivory Coast? SIR's inventory is very low: 2,600 liters of dispersant and nothing else! Enough to clean a little bit of beach!

In the opinion of the deputy director for Industrial Environment, Monet, the SIR is in complete violation. "As a first-class industrial establishment, the SIR must be capable of acting against pollution caused by it. The decree authorizing establishment of that plant stipulates this clearly."

Now, the SIR has been content with investing 3 or 4 million CFA [African Financial Community] francs in a few drums of dispersants and nothing more. For a plant that invested 130 billion in its expansions, the expenditure for the environment is very small! (barely 3 per 10,000).

"The polluters are the ones to pay the costs," Monet went on to say. "There is no doubt at all that the SIR must assume the cost of repairing the damage that it has caused."

Minimum 12 Million

What, then, is the cost of that kind of operation? A private company, ATEC, has been called in and is making its estimates. According to it, the minimum cost of this action amounts to 10 or 12 million CFA francs.

In addition, ATEC proposed that an expert come, at no cost, from Europe to determine the most appropriate emergency measures. Called yesterday during the day, the expert will arrive at Abidjan this evening! As soon as he deplanes, he is to go to the site before meeting the various participants in this emergency plan. The supervisor of the operation is the Civil Defense Bureau under the Ministry of Interior. The coordinator is the Ministry of Environment.

Alarm Bell

The oil slick, whose seriousness is relative, because it is limited only to the Bietri lagoon, demonstrates very obviously the urgent need for setting up every security measure.

In the Ministry of Environment, whose decree of establishment dates only from 2 September 1981 and in which some chairs are still wrapped in their plastic covers, it was possible to measure to what extent everything still had to be done in this field.

A sea pollution plan is being prepared. It will improve the situation and will require the industrialists to assume responsibility for the environment as an integral part of their development plan.

This is not the first accident involving the SIR. In June 1980, it dumped several hundred metric tons of hydrocarbons into the Vridi Channel. On its part, the RAN

[Abidjan-Niger Railway Administration] pours its waste oil into the lagoon unscrupulously, while various plants bordering on the lagoon (SIVENG [expansion unknown], EECI [Ivory Coast Electric Power Company] and others) are creating a totally unacceptable pollution of the lagoon.

The present oil slick should be an opportunity for a general coming into awareness and perhaps it can even serve as a warning to every industrialist. Because there is no doubt that the bill is going to be high for the SIR, which is going to have to handle the cleaning of all the boats in the marinas and to pay a compensation to the villagers who were prevented from fishing for quite some time.

PHOTO CAPTION

p 4. A film of hydrocarbons over the entire Bietry lagoon and a layer of fuel oil 1 centimeter thick on the banks.

[16 Dec 81 pp 18-19]

[Excerpts] SIR Could at Least Have Pretended to Be Concerned

The SIR claims complete ignorance of this accident, invoking the holiday weekend to justify a certain lack of supervision: pumps that they did not know had broken down and other technical accidents entirely unforeseen and difficult to supervise are used by that company as an argument and apparently excuse it. After all, everyone is exposed to technical accidents.

Only here is the point: quite a few days have elapsed since that first explanation by SIR, during which any and everybody could investigate, observe certain flagrant anomalies, during which, also, SIR could perfectly well have become concerned, put on an appearance of being sorry and let it be assumed that it had control of the situation.

But nothing of all that. On Sunday 13 December, the experts observed that the SIR was still dumping polluting liquids loaded with fuel oil and other oil products. Besides, this dumping was done very visibly in a makeshift trench dug to the east of the SIR and running to the lagoon. On Monday 14 December, some SIR laborers were on site engaged in digging that trench still more, in order to improve the flow!

"Those liquids are purified," the SIR dares state. But the deputy director for Industrial Environment, Monet, has seen the SIR facilities and claims that those waste liquids come directly out of the units, with treatment limited to two defective filters. "As a technician," Monet went on to say, "I can state that there absolutely is no treatment station there."

At any rate, it is not necessary to be a technician to observe the thick layer of fuel oil that is congealing the lagoon over several thousand square meters at the very outlet of that trench. With the next "favorable" wind, another oil slick will be carried by the current to other banks that will become unfit for food fishing, leisure activities or, very simply, as a frame of life.

Immobility and Indifference

On Monday afternoon, 14 December, a meeting was held in the Ministry of Environment attended by victims and the principal public services. The deputy mayor of Port-Bouet, Aka Anghui, who had come as a representative of her constituents, insisted on expressing the concern of the shore dwellers (especially the three Ebrie villages of Petit-Bassam, Bietri and old Koumassi). She wanted to obtain a guarantee that action was going to be taken as soon as possible to stop that pollution. In turn, the representative of the nautical clubs, Philippe Niambe, expressed his deep dissatisfaction and his loss of confidence in the SIR, which had spoken, a week before, of "a completely stopped accident."

On their part, the Ministry of Interior and the Ministry of Environment observed that, after three coordination meetings, the situation remained unchanged and that it was high time to take a radical step.

"If the SIR does nothing, very well, we shall replace it," the firefighters and Civil Defense stated, two organizations empowered to act and react quickly on the spot and especially for cleaning the banks.

Because it is quite true that, on this occasion, the behavior of the SIR is characterized primarily by immobility and a total indifference with regard to the human problems for which it is responsible. The company is represented in every meeting by an expert, representing the insurance company, a man who, with the best will in the world, cannot replace the technical officials of the SIR. An man who, obviously, can only minimize the seriousness of the events in his capacity as insurer.

Therefore, yesterday morning, the firefighters and Civil Defense went to the SIR for the purpose of putting a radical stop to that flow of pollution that has lasted too long. The first emergency measure consists, then, of making a retention basin in which the waste liquids from the SIR will be held and settled. This settling basin, easy to construct with the help of one or two bulldozers, will be temporary while waiting for a treatment station suitable for SIR's wastes.

Also in the Port

With regard to the stretch of water, also greatly affected, it is being subjected to careful observation. An evaluation mission was conducted three times by the Ministry of Navy, headed by the commandant of the National Navy, Diomande, accompanied by the administrator of the ministry and by an expert from the French Petroleum Institute. The following is the result of this investigation: a thick pollution is spread over an area of more than 40 hectares. It was caused by various hydrocarbon wastes (diesel oil, heavy and light fuel oils and even bitumen residues). A more diffuse pollution, in the form of an iridescent film spread over at least 80 hectares.

In the port, strictly speaking, although the stretches of water do not reveal heavy pollution, a mere glance at the docks reveals that the oil slick is no longer limited to the Bietri lagoon alone, but that it has now migrated over the entire port region. Therefore, complaints can be expected from lumber exporters concerning a number of floating logs bearing evident traces of this oil slick.

A large sheet of hydrocarbons has been detected 4 nautical miles off Abidjan, which might lend credit to the idea that the pollution has crossed the channel. Moreover, an especially unusual, dense black pollution has been noticed on the Lido beach.

Cleaning of the docks has been scheduled by the port authorities. But, very logically, this step cannot be taken until once the origin of the pollution has been brought under control.

The Navy Ministry has also contacted the SIR to make this company aware of its responsibilities, about which there can be no doubt. More meetings are scheduled in this connection to determine the means for stopping this kind of polluting discharges.

No More Evasion of Its Responsibilities

This "accident" reveals very well the lack of an adequate organization in similar cases.

In this connection, the Navy Ministry, "responsible for implementing emergency plans against pollution in the sea and lagoon environment," in accordance with Decree 81,736, of 21 September 1981, is putting the finishing touch on its action plan that it is to forward to the Ministry of Environment, which is responsible for preparing the general plan: financial arrangements with a view to purchasing suitable material (booms, decontamination products, flat-bottom boats for lagoon operations, pumping equipment, and so on), but especially establishment of an operational organization. Ivory Coast should be prepared to react against disasters still greater than the present oil slick.

It seems essential for the sea pollution plan to become operational rapidly, so that all concerned may no longer evade their responsibilities.

PHOTO CAPTIONS

1. p 18. While the experts were observing the pollution of the lagoon, another pollution, atmospheric this time, was rising up from the SIR where some tires and other waste were being burned.
2. p 19. All the docks in the port of Abidjan are covered with a thick layer of fuel oil, revealing that the oil slick is not limited to the Bietry lagoon alone.

[18 Dec 81 pp 4-5]

[Text] A series of meetings have been held now for a week in the Ministry of Environment to try to stop the oil slick prevailing in the Bietry lagoon and spreading to the port of Abidjan.

On Wednesday, however, things took a different turn, because the general manager of the SIR personally attended the meeting and promised to release 10 million CFA francs immediately for setting up an emergency system that the Navy and Civil Defense are going to implement with the means available to them.

The day before yesterday, FRATERNITE-MATIN conducted a large-scale inquiry on the oil slick caused by the SIR in the Bietry lagoon. According to an expert who came specially from Great Britain to evaluate the damage, it amounts to at least 400 metric tons of various hydrocarbon waste products dumped during the last 2 weeks on the very closed Bietry lagoon. These 100 [sic] tons have been deposited, at the will of wind and tides, on all the banks, jeopardizing all economic activities on them and making the banks unfit for food fishing, leisure activities or merely as a frame of life.

The day before yesterday, we deplored at length, in our columns, the immobility of the SIR, whose attitude could be interpreted as indifference by the leading Ivory Coast plant to the human problems caused by it and for which it should assume entire responsibility.

The SIR Faced by Its Responsibilities

On Wednesday morning, very fortunately, things seemed to take a different turn. In a meeting called by M'Bengue, central director for Environment, the leading members of the public authority as well as the general manager of the SIR, Kwao Gnassounou were present, making possible a direct, constructive dialogue concerning a serious situation.

The Ministries of Navy, of Interior (Civil Defense), of Defense, of Health, representatives of residents, but also French antipollution research and combat organizations (Cedre, French Petroleum Institute) and finally the ATEC company, which was called in from the start of this oil slick, contributed as many solid speakers for really starting up a struggle plan.

The first positive measure resulting from this meeting was the immediate release of 10 million CFA francs by the SIR, in order to be able finally to go into action. By meeting this requirement, the SIR took a big step forward in assuming its responsibilities.

Consequently, an emergency plan could be prepared immediately.

Cleverness and Means Available

And, because it is necessary to proceed by priorities, the participants in that meeting were of the opinion, that, before anything else, the sheets floating on the surface of the lagoon had to be held in. In order to accomplish this, the Navy proposed construction of two floating booms that will be made very crudely on the basis of logs of wood, drums and fine-mesh fishnets. These two booms, which may be as long as 900 meters, will be placed on the Bietry lagoon, one at the SIR drain outlet and the other in the middle of the stretch of water upstream from the Bietry bridge.

Setting up these booms will, therefore, be the first phase in the emergency plan. It will, at least, make it possible to stop development of the oil slick.

Other steps will have to be taken. In fact, it will be necessary to tackle, in a second phase, cleaning the banks, which will be a long, expensive job.

But, with everyone's effort and good will, we must hope that the damage caused can be repaired and that steps will be taken so that similar disasters will not be repeated.

Prevention With a Concern for Economy

The SIR has released 10 million CFA francs to initiate the first action of struggle against this catastrophe and we have every reason to rejoice at it.

Nevertheless, there must be no illusion. Those 10 million are only a drop of water in the oil slick. According to reliable but not official sources, it is estimated that the cost of the operation is going to amount to half a billion CFA francs, not to mention secondary effects impossible to calculate.

This kind of bill gives cause for reflection and especially on the economy achieved by investing in prevention equipment. At the time when the nation's 1982 budget is going to be voted on, it seems essential not to haggle over this kind of expenditure.

A ship captain told us his amazement when, wanting to pump tanks, he asked PETROCI [Ivorian Petroleum Company] where he could perform that operation and was told: "Do it in the Vridi Channel. The current will carry all that off without any problem." Unbelievable, but true!

Among the investments needed in the prevention struggle, is an unballasting station where ships could go to dump their waste oil and their water used for cleaning their fuel-oil tanks. This kind of facility is found in every large port but the west African coast is completely lacking in it.

Ivory Coast, which plays somewhat the part of a spearhead in the sea environment protection program in the Gulf of Guinea, is particularly well situated for equipping the port of Abidjan with the first unballasting station in the subregion. Therefore, it would be desirable for the Navy Ministry to be able to include this equipment under its priorities.

10,042

CSO: 5000/5641

BRIEFS

FLOOD WORRY--Antananarivo, January 21--After three years of semidrought, Madagascar has had three weeks of torrential rain, threatening floods and serious damage to the island's economy due to partial loss of the rice crop. The situation is especially worrying on the Central Plateaux, where rising waters have forced the evacuation of some 12,000 people in the poorer areas of the capital because of lack of adequate drainage. Authorities have mobilised all officials to take action against possible breaches in protective dykes surrounding Antananarivo. The situation is not yet comparable with the disastrous floods of 1959, but flooded rice fields are forcing farmers to harvest the crop some two weeks before it is ripe. (A.F.P.) [Text] [Paris AFRICA AFP in English 22 Jan 82 p 29]

RAINS BRING DEATH, ECONOMIC CRISIS--Antananarivo, 7 Feb (AFP)--More than a month of torrential rain in Madagascar has killed 30 people and made over 50,000 homeless, as well as severely affecting the rice and coffee crops. As sunshine returned, inhabitants of the left-wing island republic, which is in deep economic crisis, began to count the cost of the rains, which followed some three years of semi-drought. The worst-hit regions are the central plateau and the regions round the capital, where floods have inundated rice-fields and homes alike. Dozens of flimsy houses have collapsed, and bridges and roads are cut. In many places food supplies, which are irregular in normal times, have been badly disrupted. In Antananarivo itself fuel and meat are unobtainable, while fruit and vegetable prices have rocketed. Last Thursday Didier Ratsiraka's government called on representatives of international organizations and foreign diplomats here to help in providing urgent aid. In normal times the rains do not end until at least the end of March, but already the authorities cannot cope with the damage caused. They lack most basic essentials, from medical supplies to building materials. [Text] [AB071130 Paris AFP in English 11110 GMT 7 Feb 82]

CSO: 5000/5653

KADUNA STATE PLANS AID FOR DROUGHT AREAS

Kaduna NEW NIGERIAN in English 4 Jan 82 pp 1, 11

[Article by Aliyu Modibbo]

[Text] **KADUNA State Government, has set aside a large sum of money for the purchase of grains for distribution to the victims of drought in the state.**

This was announced by the state Commissioner for Agriculture, Dr. Yunusa Yusuf, when he paid a courtesy call on the Emir of Katsina, Alhaji Muhammadu Kabir Usman, in his Palace over the weekend.

Dr. Yusuf led a team of officials of his ministry on a three-day fact finding and assessment tour to the drought affected areas of the state which ended last Friday.

He told the emir that the aim of the state government was to see at all times that the common man was catered for adding that the present situation in the area called for urgent despatch of relief materials to the people.

He assured the emir that the affected farmers would soon benefit from the state government's relief materials in order to alleviate their sufferings.

In his reply, the emir expressed dissatisfaction at the way and manner agricultural officers were being handled by both the state and the federal governments.

He advised that unless local agricultural officers were taken seriously, the country's agricultural production would always be in a mess.

Alhaji Kabir Usman said the drought was a God sent phenomenon which could not be averted adding that there are

some designed ways that can be taken to reduce its effects.

These, he said, included the construction of dams in the rural areas for irrigation schemes.

The team also visited the Emir of Daura, Alhaji Muhammadu Bashir at his Palace.

While there, the emir said the drought scourge was not just a one-year disaster but a chronic one that we have been experiencing for more than three years.

He added that the situation would not in any way change them from their usual co-operation to the state and federal governments.

He appealed for immediate assistance to alleviate the sufferings of the people.

Earlier, Dr. Yunusa Yusuf had told the emir that it was the responsibility of every government to ensure that its people remained in peace and tranquility. He added that but this could never be achieved when its people are hungry to the state of starvation.

Among the areas also visited were Malumfashi, Kankia, Mani, Mashi, Rimi and Jibia.

During the tour, the officials were shown several farmlands which were affected by the drought scourge. Farmers told them that last season was the worst rainy season they had ever experienced since 1973.

They said that some of them had to turn all their farm proceeds into animal feeds as none of the grains they planted was matured enough for harvest.

They urged the state govern-

ment to immediately embark on large-scale agricultural food crops production schemes to enable the farmers produce enough food for the people of the state to combat the imminent danger of foodstuffs shortage in the state.

In most areas visited by the team farmers complained that they might not be able to pay back the seeds they obtained as loan from the state government because crops yields were poor. As a result, some stocks of groundnut did not produce a single seed last season.

The commissioner told the farmers that late farming could also be responsible for the poor yields because in some areas, if farmers had planted their seeds at the start of the rains crops would have yielded fairly.

The farmers urged the state government to provide them with chemicals and spraying equipment to combat any outbreak of locust and other pests as well as an emergency drilling of boreholes in all the rural areas in the state.

The team also visited the Nasarawa, Masaba, Konan Are, Damburan and Ajiwa dams irrigation schemes.

Farmers there commended the efforts of the state government in establishing such schemes so near to them.

The commissioner said that they would recommend to the government short and long term measures to alleviate the sufferings of the victims.

BRIEFS

MINISTER DISCUSSES POLLUTION PROBLEMS--Minister for the Environment Erik Holst has given the Folketing too optimistic evaluations of the effects of the environmental law, environmental chiefs and business people tell JYLLANDS-POSTEN, Sunday edition. The chairman of the county water inspectors' association, Jørgen Huberts Olsen tells JYLLANDS-POSTEN that the environment has not generally been improved to the extent as appears from the statements in connection with the proposed change of the environmental law. "Within the water sector, we have invested billions of kroner in purifying plants, but we lack additional funds for maintenance of the plants," the county water inspector states. Reports from the Frederiksborg and Storstrøm counties conclude that the streams in the two counties have certainly not become less polluted than a decade ago--rather the contrary, it is stated. Also in the area of air pollution, the situation is being viewed very positively in the statements made by Minister for the Environment Erik Holst. However, the business community is now questioning the justification for this optimism, JYLLANDS-POSTEN writes. "We are far behind in the fight against air pollution," says Division Chief Karsten Felsvang of Niro Atomizer, Inc., which is a major exporter of technical equipment to combat air pollution. "Contrary to countries such as West Germany, Austria, the Netherlands and the United States, Denmark has got no requirements as to the limitations of the content of sulphur dioxide in waste gases--not even in coal-fired power plants," Karsten Felsvang states. [Text] [Copenhagen INFORMATION in Danish 25 Jan 82 p 10] 7262

CSO: 5000/2058

FINLAND

ACID RAIN FROM CENTRAL EUROPE INCREASING DAMAGE

Helsinki UUSI SUOMI in Finnish 16 Dec 81 pp 8-9

[Article by Pirjo Tuusa: "Acid Rain Costly--Finland's Sulfur Releases Again Increasing"]

[Text] Acid rain has spurred the Central European countries to negotiate on restriction of sulfur releases.

In Finland, sulfur releases have again gone back to the 1973 peak year level. Finnish per capita releases continue to be the highest in Europe.

Finland ejected 600,000 tons of sulfure dioxide into the air in 1980. During the 2 previous years, the amount had already been as low as 520,000 tons per year.

A factor contributing to a decrease in the releases has been the structural change in the cellulose industry. There has been a transfer from producing calcium sulfate cellulose to producing sulfate cellulose and mechanical masses which pollute less.

Some individual black spots have been removed from the map. Finland's largest sulfur polluter, the Kokkola sulfur factory, was discontinued in 1977.

Coal Contains More Sulfur

Planner Seppo Sarkkinen from the Ministry of Internal Affairs says: "The increase of releases has, however, been stronger than the decrease."

"The most important reason is the growing use of fossil fuels. We have used coal that has had a higher sulfure content. Also, the structural change in the consumption of oil has put on an additional load, as the sulfur content of heavy fuel oil has gone up," Sarkkinen adds.

About one quarter of the Finnish sulfur releases originate from industrial production processes and the burning of cellulose waste liquor; three fourths originate from fuels.

Of the fuel sources, the largest is the consumption of fossil fuels by industry, and the second largest the heating of buildings; condensing power and remote heating are also major sources.

Foremost Polluters: Skoldvik and Inkoo

Of individual "sulfur producers," the largest are the Neste oil refinery at Skoldvik in the Porvoo rural commune, the coal power plant in Inkoo, the Rautaruukki steel works in Raahe, and the Nokia calcium sulfate works.

The Sulfur fallout is at its strongest at a distance of 10 times the height of the chimney. A 100-meter chimney spreads its strongest fallout about 1 kilometer from the factory or powerplant.

This is a computed figure, and it changes according to, for instance, the direction of the wind. Wind and rain also affect the remote fallout from abroad.

Southwesterly Brings Polluted Air

When the wind blows strongly and for a long time from the southwest, Finland receives the polluted air of the Central European industrial areas; a long rainy period is a guarantee that the pollutants will fall on Finnish forests and lakes.

The portion of remote pollution of the Finnish sulfur fallout was about 50 percent in 1980, whereas it was 75 percent in 1974.

The air protection agreement which already has been ratified by Finland will take effect in 1982.

"Initially, this means only that Finland will be conducting computer correspondence with other countries," Sarkkinen says.

In industrialized Central Europe, few dare to belittle the effects of sulfur fallout. It begins to be obvious to the eye.

Cologne Cathedral To Be Varnished?

The growth of forests has slowed, and even a dead forest is not a rare sight any longer. Acid rain corrodes structures. It eats into stone and concrete--Cologne Cathedral as well as ordinary apartment buildings. The Germans have had to start making plans to protect the most valuable buildings with a layer of varnish.

Lakes the Most Critical

It has been estimated that in Sweden, the forests receiving acid rain show a decrease in growth of 0.3-0.6 percent. Even as low a decrease as 0.01 percent is calculated to have economic significance.

Both Sweden and Norway are more worried over the fate of their lakes than anything else. In Norway, for example, over 10,000 lakes have already become too acidic for valuable fish to inhabit them any longer.

Sulfuric Acid Biting the Green Gold, Stultifying Growth of Forests

In Finland, about 120,000 hectares of forests are subject to direct pollutants. In this area, 1 to 3 million fixed cubic meters of timber have been lost to pollution during the past 20 years.

These figures appear in a study made by docent Satu Huttunen at the University of Oulu.

As far as the forests are concerned, we still cannot speak of a catastrophe in Finland. However, even small percentages mean millions of marks of losses.

"We have to add to the timber losses the wasted expenditures in planting and care, the losses in environmental attractiveness, and restricted use of forests for various purposes," Huttunen notes.

Forest Quality Deteriorating

It is possible for conifers to withstand the effects of acid rain for a few decades, but the average age of the trees goes down and the quality of the forest deteriorates. The effect of impurities is first seen in the lowered average age of the needles. The normal average age of the needles in southern Finland is 8 to 10 years, but only 4 to 6 years in industrial areas and towns.

Forest Expert: Clearance Burning Would Help

The only quick deterrent against acidization of the soil is burning.

Clearance burning could alleviate some effects of the remote fallout of air pollutants. Kalevi Raitasuo, from the Central Forest Society Tapio, suggests that the burning of clearings should be subsidized from forest-improvement funds.

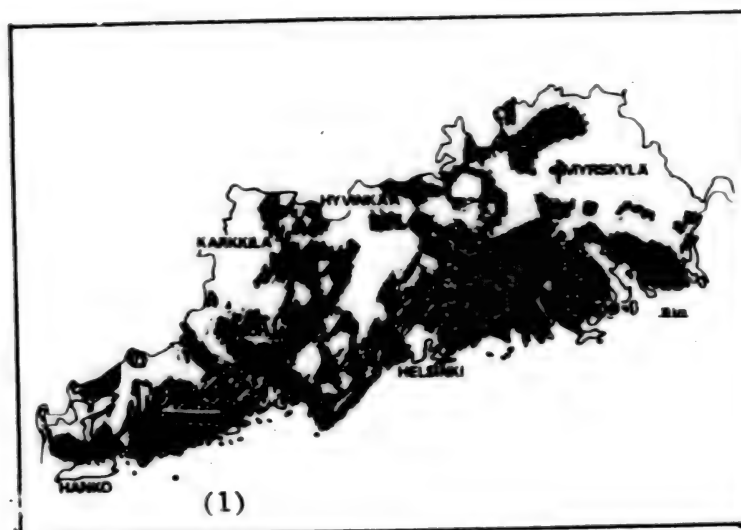
"The burning should extend to tens of thousands of forest hectares yearly. Now, no one dares to burn felling areas because he has to assume the risks himself."

The burning of forest areas stopped toward the end of the 1950's after insurance subsidies were discontinued. If burning causes a forest fire, the forester of the forest care association has to pay for the losses from his personal funds. Nobody wants to take a risk of this magnitude.

"This burning would lessen the acidization of the soil and further the activities of micro-organisms in the soil. The ashes and the alkaline salts would function as fertilizers to further the growth of tree seedlings," Raitasuo stated.

The deacidization of the soil would be best helped by boosting purification of the air both in Finland and the neighboring countries. However, dirty air has not yet become obviously uneconomic on a short-term basis," Raitasuo said.

"We are making slow progress in air protection. Wide-range clearance burning would be one process on which all experts on forest ecology could agree," Raitasuo said.



[Captions] 1) Average sulfur load in Uusimaa in 1979-80. Study by docent Satu Huttunen. The black areas are problematic, the grey are loaded areas, and the white ones are quite clean or unresearched.

2) The effect of air pollutants in a forest ecosystem. Most sensitive to sulfuric acid and other airborne pollutants are the coniferous trees spruce and pine.

A) Immediate Effects:

- 1) Lessening productivity (decrease of green mass and annual needle output)
- 2) Disappearance of sensitive species (for example, lichen and moss)
- 3) Numerical changes in populations of various species
- 4) Retardation of the soil-decomposing processes
- 5) Disappearance of mycorrhiza fungus

B) Indirect Effects

- 1) Green surfaces wear off and nutrients drain away
- 2) Propagation of pests and diseases

C) Secondary Effects

- 1) Propagation of root pests
- 2) Lowering of pH levels, draining away of nutrients, disturbances in nutritional balance

CREPEAU PRESENTS ENVIRONMENTAL PROTECTION PROGRAM

Paris LE MONDE in French 27 Nov 81 p 33

[Text] A "Mr Noise" in every prefecture

Overall classifying of eight large national sites

On Thursday, 26 November, Mr Michel Crepeau made public the decision he had pushed through to adoption the night before in the Council of Ministers. It is the first environmental program to be initiated by the Mitterrand government.

Water: Protection for 1,000 water catchments per year through an aid from the reservoir agencies to municipalities; protection of underground water reserves against nitrogen pollution; heightened control over small power plant projects and limitation of gravel pits; upgrading of flood warning systems, especially along the Seine and the Loire Rivers; a study of a system for equal distribution of water prices over a space of time without stripping representatives of their responsibilities.

Noise: A "Mr Noise" to be appointed in every prefecture; signing, in 1982 and 1983, of 20 antinoise contracts with certain cities on a voluntary basis; requirements for nonremovable exhaust chambers for 2-wheeled vehicles; reabsorption of the worst road and rail traffic noise through the insulation of 1,500 out of 300,000 dwellings considered "disaster cases"; reform of the tax paid by airline companies making it contingent on the noise of airplanes (not on the number of passengers), and buying up of 10,000 dwellings surrounding Orly and Roissy.

Air: Setting up of the Air Agency in the Paris region (30 people and Fr 30 million for 1982).

Industries: Systematizing safety analyses for the 100 most dangerous chemical and petrochemical factories; naming of 87 more inspectors of hazardous industries to strengthen the current force of 400.

Natural areas: Increasing the educational role of regional and national parks; drafting of a new fishing law entrusting fishermen with the management of capital from fish breeding; beginning work on a reform of hunting legislation affirming the responsibility of hunters in the preservation of wild fauna, recognition of the right to prohibit hunting for those who wish to on their property; extension

of classified zones to eight large sites of national interest including Saite-Victoire Mountain, the gorges at Verdon, Alpilles, Cape Raz, Alsace Mountain, the bay at Mont-Saint-Michel, the gorges at Ardecche, and Saint-Tropez Peninsula; the offering of contracts to businesses and administrations whose electrical and telephone lines as well as large works "weigh on the countryside."

Wastes: In the fields of sandpaper and rubber, businesses will present a program reevaluating their wastes within 6 months.

Information: Higher budgets and staff for regional environment delegations; wider publicity for impact and organizational studies in 1982 on some 20 public hearings on large projects.

By means of these decisions Mr Crepeau hopes to make the environment "one of the instruments of the new growth" and "one of the components of employment policy." He thinks it possible to add 300,000 jobs per year to the 370,000 workers already employed in the environment sector.

Several ministers and state secretaries, who during his period in office Mr Giscard d'Estaing successively appointed as heads of the environmental program, had the custom of attaching strings to measures. After 6 months of reflection, Mr Michel Crepeau appears to wish to adopt the same method. It will work if it is true that the numerous and varied environmental problems can be solved explicitly on site. This method presents the problem of too easily becoming a sort of attic where the services can clean out their drawers. There one quickly finds excellent intentions, indispensable reforms, and proposals whose application reveal other partners.

These seductive patchwork solutions have suffered in the past from a lack of coherence and effectiveness. They have not served to cover up the absence of a grand design and a means to achieve it. Will Mr Crepeau's catalog escape the flaws of the past? Would it not be in the end more reasonable to set two or three priorities--for example the safeguarding of landscapes, the fight against noise, and the protection of the coastline in the overall sense--and really apply to them for once the legislative, regulatory, technical and financial efforts necessary.

9802

CSO: 5000/2043

ATHENS AREA POLLUTION REACHES CRISIS PROPORTIONS

Measures Considered Inefficient

Athens I KATHIMERINI in Greek 13 Jan 82 p 1

/Text/ The prohibition of "odd number" tag private automobile traffic and other measures taken did not result in any definitive cutback in the pollution cloud yesterday. The pollution indicators did show a small drop and the restrictions on private automobile traffic has been extended through today. Also contributing to the continuation of the pollution cloud are the bad weather conditions. Today we will continue having dead calm with high humidity, together with the still very high level of pollution. With yesterday's immobilization of private vehicular traffic, while all other public vehicles, buses, taxis (in much greater numbers, of course), etc., were permitted to operate, there could not be much significant difference, especially when an increase in pollution was noted coming from industrial zones, despite the 30 percent cutback ordered on their operations! Subsequently, today's only hope lies in the EMY /National Meteorological Service/ forecast predicting winds to begin blowing around noon which could help dissipate the pollution cloud and improve the situation.

The special measures enacted by the government to combat the pollution cloud are being continued for another 24-hour period, i.e. until 5 AM tomorrow, Thursday. Consequently, private vehicles with "odd number" tags are permitted to operate today.

As Minister of Urban Planning, Housing and Environment A. Tritsis announced, the extension of the measures was decided on because the atmospheric pollution in the capital area remains at a high level despite a certain drop shown by the measuring indicators, while at the same time no significant change in the weather conditions are being forecast.

Measurements

Atmospheric pollution dropped to only 30 percent in the center of Athens with yesterday's prohibition of movement by private vehicles with "odd number" tags, while in the industrial zones where an increase in pollution was noted, measures imposed proved completely inadequate.

Automobile traffic did not show any significant decrease since all buses, public utility vehicles, trucks, motorcycles, all taxis and private vehicles with even number tags were permitted to operate. Consequently, yesterday's pollution increases continue to be above the emergency levels, a fact that forced the government to continue the restrictive measures today, even though it does not appear that they are adequate enough to prevent the local population from escaping the effects of this atmospheric pollution.

Consequences

These effects became evident yesterday to many people. Individuals showed up at the First Aid Center and hospital outpatient centers with respiratory ailments, vomiting, headaches, burning of the eyes and other symptoms.

Especially severe problems were experienced by residents of the center of Athens where the smoke level reached 6.22 photometric units /p.u./ over the past 24-hour period.

Winds Reduce Pollution

Athens I KATHIMERINI in Greek 14 Jan 82 pp 1, 3

/Text/ Thanks to the "favorable winds" which began blowing yesterday afternoon, residents of Athens and Piraeus (...both odd and even tagged ones!) could once again begin driving their private automobiles! Despite the 2-day restriction of circulation (of private vehicles only), the situation had not much improved yesterday, and if the winds had not started up, the special measures would surely had been continued. In the meantime, Mr D. Maroudas, a government spokesman, revealed that the government's definitive measures to combat pollution would be announced within a week.

Consequently, beginning at 5 AM today, all special measures taken to combat the pollution cloud (restriction on circulation of private vehicles, restricted operation of industries and central heating, etc.) will be lifted.

As announced by the ministry of urban planning, housing and environment, the measures were lifted because of the change in weather conditions.

That is it as far as the "special measures" are concerned. The "definitive measures" will probably be announced tomorrow or the day after tomorrow, at any rate this week, as the government spokesman said yesterday in answer to a specific question. He added that there will be a meeting today of ministers concerned with the issue to discuss the final form of their suggestions.

It is possible that this meeting may be chaired by Prime Minister Andreas Papandreou. Moreover, it is also possible that the measures may be discussed during tomorrow's meeting of the ministerial council.

It is to be noted that the measures to be announced will be immediate ones, such as those in effect over the past 48-hour period, short-term ones and long-term ones.

Among the immediate measures to be taken is the establishment of a schedule for the circulation of private vehicles on a rotating basis, except Saturdays and Sundays, in the entire region of the former capital administration.

In relation with the definitive measures concerning pollution of the environment, scientific circles stressed yesterday that if the issue of industrial pollution is not tackled immediately and decisively, a situation which dangerously hangs over the capital, no endeavor whatsoever will have results. We would even add --even if restrictions were placed on the circulationof bicycles!

Concerning Winds

The winds which began blowing yesterday afternoon are hoped to be more effective than the special measures taken and will deliver us from the unbearable atmospheric pollution which has suffocated Athens, Piraeus and the outlying area these past few days.

Pollution Levels

Yesterday's levels announced by the PERPA [Environment and Pollution Control Program for Athens] are as follows:

Smoke (alert level 3 p.u. per 24-hour period):

147 Patisia Street: 0-3 AM, 3.22 p.u.; 3-6 AM, 2.85 p.u.; 6-9 AM, 4.57 p.u.

Ministry (17 Aristotelous Street): 0-3 AM, 4.63 p.u.; 3-6 AM, 3.82 p.u.; 6-9 AM, 5.81 p.u.

Piraeus (Public Theater): 0-3 AM, 2.92 p.u.; 3-6 AM, 3.22 p.u.; 6-9 AM, 5.81 p.u.

Rendi (First Public School): 0-3 AM, 4.33 p.u.; 3-6 AM, 3.16 p.u.; 6-9 AM, 4.30 p.u.

Levels between 9 AM and noon showed: 4.73 p.u. on Patisia Street; 5.79 p.u. at the ministry; 4.48 p.u. in Piraeus; and 5.69 p.u. in Rendi.

Nitrogen dioxide (alert level 500 micrograms per cubic meter):

| | | |
|------------|----|----------------|
| 8-9 | AM | 248 micrograms |
| 9-10 | AM | 250 micrograms |
| 10-11 | AM | 261 micrograms |
| 11-noon | | 345 micrograms |
| noon- 1 PM | | 401 micrograms |

In an announcement issued by PAKOE [expansion unknown], which also reported high levels of pollution, it was stressed that the most basic and effective measures to combat pollution would be the setting up of a mechanism to control industries.

Industry's Role Questioned

Athens ELEVHEROTYPIA in Greek 13 Jan 82 p 1

/Text/ There was less pollution yesterday proving that the special measures taken had produced results. But that is only half the truth.

Wherever the measures were enforced by the general public (odd and even numbered tags of private vehicles, cutoff of heating equipment in schools and services), the pollution levels showed significant drops.

On the other hand, wherever the burden of enforcement fell primarily on industries (30 percent restrictions on production), not only did pollution not diminish but actually became more threatening. The measurements taken at Rendi and Piraeus are revealing.

Two things are therefore happening: One, either some industries are ignoring the measures and are consequently breaking the law. In this case, it is logical to find out which industries are involved and what penalties will be imposed on them. Two, the state is incapable to control --and, of course, to enforce-- the implementation of measures on industries. In this case, it must move forward to enact drastic solutions which will ensure equality of sacrifices.....

5671

CSO: 5000/5310

AIR, SEA POLLUTION AFFECTS EVVOIKOS GULF AREA

Athens EXORMISI TIS KYRIAKIS in Greek 10 Jan 82 p 6

/Research on article done by Vas. Karagiannis, Nikos Khrysogelos and A. Lambropoulos:
"When Industrialization Becomes 'Inhuman...'"

/Excerpts/ If the Elefsis region is considered one of the most polluted regions in our country, it would be worth the trouble to examine another very polluted area resulting from inconsiderate and unplanned industrial development. This area extends from the mouth of the southern Evvoikos Gulf (from the Evripou bridge) to the locality of Bourtzi in Avlis.

The data we provide, from an ecological and social aspect, are of special significance because of the expansion of industrial development and the basic significance this has on the Evvoikos Gulf.

The first contact with the place is distressing. Always, wherever heavy industry is arbitrarily established, it has altered the landscape, broken up the harmony of nature and smashed the ecosystem by reducing those few surviving species, which have great ability to adjust.

The Evvoikos Gulf is, at least from a spectacular viewpoint, a great river. From left to right, two muddy banks. Few swimmers in summer ignore the warning sent out by gray-looking bubbles on the surface of the water.

Cases of skin disorders, skin and bone cancer, urinary disorders, etc. have increased recently. One cannot approach the cliffs because of the prevalent stench. Wherever there are inhabited areas, attempts are made daily to deliver the people from the mess of plastic bottles, beer cans, Coca-Cola bottles, and garbage mixed with oils and petroleum dumped by cargo vessels in shipyards. The situation is aggravated by cement dust coming from industries. Millions of tons of dust from 1965 when the industrial installations were enlarged. Filters that industrial plants were forced to use operate only partially in the mornings and stop altogether at night. A natural consequence of this are the lung ailments affecting not only the cement workers but farmers working in the area.

Industries

There are five major factory complexes with two operational "zones."

The first zone, as we move in the direction of Khalkis, has been established at Mikro Vathi where the "Khalkis Naval Shipyards" under Karras ownership, the German pharmaceutical plant Hoechst and the Interkem chemical plant are all located.

The second zone, located between Megalo Vathi and Glyfa, is dominated by the giant cement plant, "T. Kh. Portland Tekhnita Company." The Ellenit asbestos pipe plant is located in the third /as published/.

Pollution in the region is not simply a mere supposition; it is a reality. Measurements do not cover the entire spectrum of other possible forms of pollution (tars, oils, traces of metallic and other toxic substances). Nevertheless, even these few data are quite indicative.

With regard to atmospheric winds, when they blow in from the south, dust from the cement plant covers the greater part of Khalkis. When they blow in from the north, the dust spreads out toward Avli, Kalokhori, Gerali and sometimes reaches Dilesi. The cement plant has filters but it appears they "break down" easily or else they often operate partially at night.

Measurements for estimating the extent of atmospheric pollution have shown that the levels for suspended particles in the air of the region are 85 percent above that of the highest "acceptable" level (for a height of 8-15 meters, the highest "acceptable" level for an 8-hour continuous reporting period is 75 micrograms per cubic meter of air, in accordance with EEC specifications in 1980).

Sea Pollution

With regard to the sea, the situation is even worse. The Evvoikos Gulf at this point is not more than 10-13 meters deep. Consequently, pollution is more evident: cloudy waters, slime that strangely smells like petroleum, oils, tars, mixed with smells of dead mussels, etc.

In the old days, the region was famous for its many fish. Today, the variety and number of fish has been greatly reduced. The same holds true for shellfish.

Temperature is one of the most basic factors regulating the proper functioning of various ecosystems. It also regulates the salt and alkaline content of sea water. For proper growth of fish and shellfish, the temperature must not vary because this causes severe damage to the functioning of organisms. Cloudiness is indicative of the existence of suspended solids in a maritime zone.

Suspended solids can be dangerous to health because they often contain toxic compounds. They are, however, sure factors which are altering life in the sea. Measurements have indicated that the sea cloudiness levels near Khalkis are 100 - 200 percent higher than normal.

Increased concentrations of phosphoric substances resulting from excess use of detergents have also been noted. In many places (from where specimens were taken for measurement) there is also the serious problem of large concentrations of colobacteria. This situation is due to the dumping of untreated sewage (city sewage or industrial waste) into the sea.

We must at this point mention a few characteristics of the region which significantly influence the prevalence of pollution. The closed gulf is conducive to pollution. At the same time, the channel between Evvoia and the mainland acts as a river. What is happening with the river? It deposits sand on both the right and left banks. Something similar is happening with the sea at this point. While pollution is being dispersed by tides, at the same time it piles up left and right, close to the shores.

Consequently, in accordance with findings of specialists who have been dealing with the pollution problem in the region, sewage moved by tidal currents reach Skhoinia and Nea Makri, and with the turning of the currents is deposited there.

The occurrence is seen (besides the study of currents) in the existence of oils, tars and other inexcusable substances in these areas.

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ICELAND

ALTHING ENVIRONMENT PANEL SUBMITS PROPOSALS FOR 1982-86

Reykjavik MORGUNBLADID in Icelandic 7 Jan 82 p 32

[Text] Just before the Althing's Christmas recess, a proposal concerning land reclamation and environmental protection for 1982-'86 was submitted. It is based on the findings of an environmental panel. The proposal reads as follows:

"The Althing resolves that from 1982 to 1986 inclusive, and in addition to the annual allocations for institutions in the budget, land reclamation and environmental protection efforts will be made pursuant to the following plan:

1. Tasks to be performed by Icelandic Land Reclamation: Halting the shifting of sands and the erosion of soil and undergrowth; vegetation monitoring, protection and expansion: 40.4 million kronur.
2. Tasks to be performed by the Icelandic Forest Service: Protection of land for forestation, regional forestation plans, forestation research, outdoor parks near densely populated communities, forest protection and forestation: 9.5 million kronur.
3. Tasks to be performed by the Agricultural Research Institute: Research on the utilization of pastureland, vegetation and soil erosion and land reclamation methods; mapping vegetation areas and environmental research, seed research and plant research, among other things, their hardiness in winter: 5.1 million kronur.
4. Miscellaneous: Tasks involving the cooperation of institutes that participate in land reclamation program, seed cultivation; the planting of trees for shelter; monitoring of progress. Support for education and the participation of associations interested in forestry and land reclamation: 1.6 million kronur.
5. Activities to protect against land breakup and destruction due to the action of lakes or the ocean, under the auspices of the State Land Reclamation: 14.5 million kronur. Total over 5 years 71,225,000 million kronur. For the 1983-86 allocations price indexing will be figured in based on the 1982 allocations."

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WAYS PROPOSED TO SAVE GOLDEN HORN

Istanbul TERCUMAN in Turkish 3 Dec 81 p 2

[Article by A. Nafiz Camlibel, teaching member, Kadikoy Faculty of Engineering and Architecture: "How To Save the Golden Horn"]

[Text] It should come as no surprise if the plug has to be pulled on the history of our legendary inlet, called the "Golden Horn" by Westerners, subject of novelists and hailed by many a poet over the centuries.

It is known fact that the Golden Horn has been steadily filling in ever since the conquest of Istanbul. Fossil findings during the foundation studies for the Alibey Dam and the failure to find solid ground for the foundation of the dam were proof that the Golden Horn has been steadily filling for many, many years. It was found as the result of depth probes made in the Golden Horn that it is filling as much as 10-12 centimeters a year.

As a result of the concern felt over the environmental pollution caused by industries around the Golden Horn and the daily-growing contamination of its waters, a symposium on the Golden Horn was held at Istanbul Technical University [ITU] in 1975 at which the problems they breed were brought out and discussed. Another symposium was repeated later at Bogazici University and the "Golden Horn Master Plan and Final Report on an Implementation Program" encompassing the views of both symposiums was published. This report pointed out that the goals it targeted could not be achieved in less than 12 years, and at that with a sustained effort envisaging a cost of 2 billion liras.

Although the report did suggest an approach, however technical, to resolving the problems, it offered no solution to the time problem. The time has come to seek a solution that will quickly rid the Golden Horn environment of this pollution threatening the health of its nearly 750,000 population. In view of the fact that the nation cannot afford the cash in the short term, the first step in solving the problem should be to locate long-term foreign credits. This being the case, the Golden Horn problem should be discussed at an international symposium and its international dimensions recognized. Thus a way should be sought to resolve the problem in the short term, benefitting from international credit organizations.

Technical Planning

The next stage after these credit and investment resources should be to get on with technical planning. The major outlines and following order of implementation are the logical requirement in this planning:

- A. Urgent methods should be sought to purify the waters of the Golden Horn by chemical means.
- B. Nearby establishments endangering the environment and polluting the Golden Horn should be removed and both shores of the Golden Horn should be nationalized.
- C. Parallel with these efforts, those unplanned, densely populated residential districts in the vicinity which prohibit environmental improvement and those within the historic district should be removed, and these residential "developments" should be planned according to the new measures in the greater Planning Area Zoning Plan.
- D. Following completion of the procedures we tried only to summarize in the third part above, procedures should be undertaken for dredging the Golden Horn.
- E. The results of an effort of this kind will be to achieve harmony with the historical environment on nationalized land on both sides of the Golden Horn, making it possible to rebuild a living "replica" of old Istanbul. This new plan would also boost our tourism potential and facilitate repayment of the credits obtained for the project.

This may seem to be a "utopia," but it can be achieved. The principles which make "utopia" into "fact" are strong desire, quick action, a systematic and scientific approach, patience and hard work.

The ITU Golden Horn symposium discussed reports proposing a canal from the Black Sea and Buyukdere to the Golden Horn and jawboned everything, including an idea for "pumping" clean water into the Golden Horn. An off-set printed "report" containing all these views was bound and placed on the library shelves. This is the story of Turkey's life. Why has there been no individual, no power or authority among those who did this talking and debating to come forward and put a reasonable, eminently practical "solution" into action? For too long Turkey has been a nation of constant "talkers."

When are we going to turn the talkers into a nation of "implementers" and managers?

Emergency

The Golden Horn is a clinical emergency. It is a problem needing immediate treatment. An "agency" to perform the first "emergency" operation needed by this patient should be formed immediately and the requisite law should be passed immediately. We believe that an independent agency to concern itself with the Golden Horn would introduce a solution to the problem. It would be realistic for this "agency," which we think should be under the Ministry of Public Works, to have a separate statutory structure of its own, as befits the special nature of the case, beyond similar statutes for the Highways and Hydraulic Affairs Directorates

General. In this way, the agency could soon accomplish the targeted goals. The matter should not be abandoned to future political hindrances.

One may ask how this agency to be charged with "cleaning up the Golden Horn" would get started and where it would begin. If it reviewed and revised the "Save the Golden Horn" efforts, it could work up the proposals in the form of an "implementation project." If the result were deemed inadequate, it would be fitting and proper to hold an international "contest" for the implementation project.

Profitable use of time in the efforts made will see that the solution is appropriate to the goal. The resources to realize a project recognizing the "time factor" in the Golden Horn problem will be possible only with a large credit. Obtaining this credit will require, in particular, the launching of a "publicity" campaign stressing the importance of the work to be done by the Golden Horn Agency. The struggle to combat environmental pollution is already a global concern. It should be a top priority to put the Golden Horn on this international antipollution agenda. Once the environmental pollution of the Golden Horn is cleaned up through such an effort, separate funding could be found for the necessary credits for dredging the Golden Horn and proceeding with environmental improvements. Moreover, the possibility must not be ignored of finding "contractors" to undertake the dredging of the Golden Horn on condition that the sludge removed be given to them. Paralleling these efforts, foreign financing should also be sought for the structures (such as recreation areas and hotels) that would add a touristic character to the environmental improvement of the Golden Horn. We believe that the government now in office should take the "Golden Horn" issue in hand and resolve it.

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